Louisville Metro Air Pollution Control District
701 West Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

Federally Enforceable District Origin Operating Permit (FEDOOP)

Permit No.: O-1610-19-F (R2) Plant ID: 1610

Effective Date: 01/08/2019 Expiration Date: 01/31/2024
R1 Revision Date: 09/23/2019
R2 Revision Date: 06/16/2020

Permission is hereby given by the Louisville Metro Air Pollution Control District to operate the process(es) and equipment described herein which are located at:

Source:	Ferequity – Louisville Bakery 2287 Ralph Ave Louisville, KY 40216	Owner:	Ferequity Inc. 7 Sylvan Way, 4th Floor Parsippany, NJ 07054

The applicable procedures of District Regulation 2.17 regarding review by the U.S. EPA and public participation have been followed in the issuance of this permit. Based on review of the application on file with the District, permission is given to operate under the conditions stipulated herein. If a renewal permit is not issued prior to the expiration date, the owner or operator may continue to operate in accordance with the terms and conditions of this permit beyond the expiration date, provided that a complete renewal application is submitted to the District no earlier than twelve (12) months and no later than ninety (90) days prior to the expiration date.

Emission limitations to qualify for non-major status:

Pollutant: VOC
Tons/year: 99

Application No.: See **Application and Related Documents** table.

Public Notice Date: 12/04/2018

Permit writer: Rick Williams

Air Pollution Control Officer
6/16/2020

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FEDOOP Permit Revisions/Changes

Permit No.	Public Notice Date	Issue Date	Change Type	Description/Scope
29510-13-F	07/18/2013	09/17/2013	Initial	Initial permit issuance
O-1610-15-F	06/27/2015	07/28/2015	Sig	EU1 – incorporate C-1610-1000-15-F (Replace oven #2)
O-1610-15-F (R1)	N/A	05/10/2016	Admin	EU-IA2 – replace Mixer 1 (IA2.E18.01)
O-1610-15-F (R2)	N/A	07/10/2018	Admin	EU-IA2 – Replace: Hopper 2 (IA2.E17.02), Hopper 10 (IA2.E17.10), and Mixer 2 (IA2.E18.02). Add Sugar Use Bin (IA2.E20)
O-1610-19-F	12/04/2018	01/08/2019	Renewal	List U3-E9 invert sugar process as IA Correct description of C1 Remove CO_2 Powdered sugar mixers, from permit. They have been removed from the facility Expand IA list to show each piece of equipment individually Correct the incorrect control device assignments listed in the application on page 5-5.
O-1610-19-F (R1)	N/A	09/23/2019	Admin	Name and ownership change
O-1610-19-F (R2)	N/A	06/16/2020	Admin	Addition of Insignificant activity at IA2-E19 Revise General Condition G12 to require semiannual, rather than annual, reporting Updated STAR general conditions for clarity

Construction Permit Summary

Permit No.	Issue Date	Description
NONE		

Application and Related Documents

Document Number	Date Received	Description
The following document numbers refer to files in the eB document management system		
92753	06/28/2018	Permit renewal application – public version
92737	06/28/2018	Permit renewal application – CBI version
93486	07/31/2018	Clarification of application questions
	08/01/2018	Response to request for clarification
94081 94734	09/06/2018 10/04/2018	APCD decision on Kellogg CBI claims and company response
95761	10/29/2018	Clarification of control device assignment
96355	10/04/2018	Revised application, updating tables 4, 15, and 24, due to CBI reconsideration.
The following document numbers refer to files in the onBase document management system		
19775	10/29/2018	Keebler correction of install dates and control devices listed in previous permit
20405	12/03/2018	Transmittal of public notice documents
20407	12/03/2018	Confirmation of Keebler transmission of Confidential application to EPA
20793	01/08/2019	Transmittal of renewal permit
3294	08/07/2019	Application for name and ownership change
94152	08/23/2019	W9 Form for Ferequity
117449	09/19/2019	Communication regarding invoice payment for Admin change
118905	09/23/2019	Transmittal of Revision 1 permit
123851	11/05/2019	Initial company inquiry regarding IA addition and APCD response
123905	11/06/2019	Company followup questions regarding IA addition and APCD response
123931	11/06/2019	Additional company followup and APCD response
124235	11/11/2019	Inquiry regarding construction timing for IA and APCD response
124856	11/18/2019	Application for IA installation
124839	11/18/2019	Transmittal email for IA application
135630	11/18/2019	APCD request for clarification of equipment layout for IA installation
124855	11/19/2019	Company response to clarification request
124856	11/19/2019	APCD approval of IA installation
137050	04/13/2020	Draft permit sent to company for review
141165	5/20/2020	Company comments on draft permit

Abbreviations and Acronyms

AP-42 - AP-42, *Compilation of Air Pollutant Emission Factors, published by U.S.EPA*
APCD - Louisville Metro Air Pollution Control District
BAC - Benchmark Ambient Concentration
BACT - Best Available Control Technology
Btu - British thermal unit
CEMS - Continuous Emission Monitoring System
CFR - Code of Federal Regulations
CO - Carbon monoxide
District - Louisville Metro Air Pollution Control District
EA - Environmental Acceptability
gal - U.S. fluid gallons
GHG - Greenhouse Gas
HAP - Hazardous Air Pollutant
Hg - Mercury
hr - Hour
in. - Inches
lb - Pounds
l - Liter
LMAPCD - Louisville Metro Air Pollution Control District
mmHg - Millimeters of mercury column height
MM - Million
(M)SDS - (Material) Safety Data Sheet
NAICS - North American Industry Classification System
NO_x - Nitrogen oxides
PM - Particulate Matter
PM_{10} - Particulate Matter less than 10 microns
$PM_{2.5}$ - Particulate Matter less than 2.5 microns
ppm - parts per million
PSD - Prevention of Significant Deterioration
psia - Pounds per square inch absolute
QA - Quality Assurance
RACT - Reasonably Available Control Technology
SIC - Standard Industrial Classification
SIP - State Implementation Plan
SO_2 - Sulfur dioxide
STAR - Strategic Toxic Air Reduction
TAC - Toxic Air Contaminant
UTM - Universal Transverse Mercator
VOC - Volatile Organic Compound
w.c. - Water column
year - Any period of twelve consecutive months, unless "calendar year" is specified
yr - Year, or any 12 consecutive-month period, as determined by context

Preamble

This permit covers only the provisions of Kentucky Revised Statutes Chapter 77 Air Pollution Control, the regulations of the Louisville Metro Air Pollution Control District (District) and, where appropriate, certain federal regulations. The issuance of this permit does not exempt any owner or operator to whom it has been issued from prosecution on account of the emission or issuance of any air contaminant caused or permitted by such owner or operator in violation of any of the provisions of KRS 77 or District regulations. Any permit shall be considered invalid if timely payment of annual fees is not made. The permit contains general permit conditions and specific permit conditions. General conditions are applicable unless a more stringent requirement is specified elsewhere in the permit.

General Conditions

1. The owner or operator shall comply with all General Conditions herein and all terms and conditions in the referenced process/process equipment list.

2. All terms and conditions in this FEDOOP are enforceable by EPA, except those terms and conditions specified as District-only enforceable, and those which are not required pursuant to the Clean Air Act Amendments of 1990 (CAAA) or any of the Act's applicable requirements.

3. All application forms, reports, compliance certifications, and other relevant information submitted to the District shall be certified by a responsible official. If a change in the responsible official (RO) occurs during the term of this permit, or if a RO is added, the owner or operator shall provide written notification (Form AP-100A) to the District within 30 calendar days of such change or addition.

4. The owner or operator shall submit an annual compliance certification, signed by the responsible official, to the District, on or before April 15 of the year following the year for which the certification applies. This certification shall include completion of District Form 9440-O

5. Periodic testing, instrumental monitoring, or non-instrumental monitoring, which may include record keeping, shall be performed to the extent necessary to yield reliable data for purposes of demonstrating continuing compliance with the terms and conditions of this permit.

6. The owner or operator shall retain all records required by the District or any applicable requirement, including all required monitoring data and supporting information, for a period of five years from the date of the monitoring, sampling, measurement, report, or application, unless a longer time period for record retention is required by the District or an applicable requirement. Records shall be retrievable within a reasonable time and made available to the District, Kentucky Division for Air Quality, or the EPA upon request.

7. The owner or operator shall provide written notification to the District, and receive approval, prior to making any changes to existing equipment or processes that would result

in emissions of any regulated pollutant in excess of the allowable emissions specified in this permit.

8. This permit may be reissued, revised, reopened, or revoked pursuant to District Regulation 2.17. Repeated violations of permit conditions are sufficient cause for revocation of this permit. The filing of a request by the owner or operator for any reissuance, revision, revocation, termination, or a notification of planned changes in equipment or processes, or anticipated noncompliance shall not alter any permit requirement.

9. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed either 10 tons per year, or such lesser quantity as the EPA has established by rule, of any one Hazardous Air Pollutant (HAP) or 25 tons per year of all HAPs combined. Fugitive HAP emissions shall be included in this limit. HAPs are listed in Section 112(b) of the CAAA and as amended in 40 CFR 63, Subpart C.

10. Except as otherwise specified or limited herein, the owner or operator shall not allow or cause the emissions to equal or exceed 100 tons per year of any regulated pollutant, including particulate matter, PM_{10}, $PM_{2.5}$, sulfur dioxide, carbon monoxide, nitrogen oxides, lead, hydrogen sulfide, gaseous fluorides, total fluorides, or volatile organic compounds (VOC); any pollutant subject to any standard in District Regulation 7.02; or any substance listed in sections 112(r), 602(a) and 602(b) of the CAAA. Fugitive emissions shall be included in these limits for source categories listed in District Regulation 2.16.

11. Unless specified elsewhere in this permit, the owner or operator shall complete required monthly record keeping within 30 days following the end of each calendar month.

12. Unless specified elsewhere in this permit, the owner or operator shall submit semiannual reports demonstrating compliance with the emission limitations specified. The report shall contain monthly and consecutive 12-month totals for each pollutant that has a federally enforceable limitation on the potential to emit. All reports shall include the company name, plant ID number, and the beginning and ending date of the reporting period. The compliance reports shall clearly identify any deviation from a permit requirement or a declaration that there were no such deviations. All compliance reports shall include the following per Regulation 2.17, section 3.5.

    - A certification statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in this document are true, accurate, and complete", and
    - The signature and title of a responsible official of the company.

    The semi-annual compliance reports are due on or before the following dates of each calendar year:

Reporting Period	**Report Due Date**
January 1 - June 30	August 29
July 1 - December 31	March 1 of the following year

13. The owner or operator shall comply with all applicable requirements of the following federally enforceable District Regulations:

Regulation	Title
1.01	General Application of Regulations and Standards
1.02	Definitions
1.03	Abbreviations and Acronyms
1.04	Performance Tests
1.05	Compliance With Emissions Standards And Maintenance Requirements
1.06	Source Self-Monitoring, Emission Inventory Development and Reporting
1.07	Excess Emissions During Startups, Shutdowns, and Upset Conditions
1.08	Administrative Procedures
1.09	Prohibition of Air Pollution
1.10	Circumvention
1.11	Control of Open Burning
1.14	Control of Fugitive Particulate Emissions
1.18	Rule Effectiveness
1.19	Administrative Hearings
2.01	General Application (Permit Requirements)
2.02	Air Pollution Regulation Requirements and Exemptions
2.03	Authorization to Construct or Operate; Demolition/Renovation Notices and Permit Requirements
2.04	Construction or Modification of Major Sources in or Impacting Upon Non-Attainment Areas (Emission Offset Requirements)
2.05	Prevention of Significant Deterioration
2.06	Permit Requirements – Other Sources
2.07	Public Notification for Title V, PSD, and Other Offset Permits; SIP Revisions; and Use of Emission Reduction Credits
2.09	Causes for Permit Modification, Revocation, or Suspension
2.10	Stack Height Considerations
2.11	Air Quality Model Usage
3.01	Ambient Air Quality Standards
4.01	General Provisions for Emergency Episodes
4.02	Episode Criteria
4.03	General Abatement Requirements
4.04	Particulate and Sulfur Dioxide Reduction Requirements
4.05	Hydrocarbon and Nitrogen Oxides Reduction Requirements
4.06	Carbon Monoxide Reduction Requirements
4.07	Episode Reporting Requirements
6.01	General Provisions (Existing Affected Facilities)
6.02	Emission Monitoring for Existing Sources
7.01	General Provisions (New Affected Facilities)

14. The owner or operator shall comply with all applicable requirements of the following District-only enforceable regulations:

Regulation	Title
1.12	Control of Nuisances
1.13	Control of Objectionable Odors
2.08	Emission Fee, Permit Fees and Permit Renewal Procedures
2.17	Federally Enforceable District Origin Operating Permits
5.00	Definitions
5.01	General Provisions
5.02	Adoption and Incorporation by Reference of National Emission Standards for Hazardous Air Pollutants
5.14	Hazardous Air Pollutants and Source Categories
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant
5.21	Environmental Acceptability for Toxic Air Contaminants
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant
5.23	Categories of Toxic Air Contaminants
7.02	Adoption and Incorporation by Reference of Federal New Source Performance Standards

15. The owner or operator shall submit emission inventory reports, as required by Regulation 1.06, if so notified by the District.

16. The owner or operator shall submit timely reports of abnormal conditions or operational changes that may cause excess emissions, as required by Regulation 1.07.

17. Applications, reports, test data, monitoring data, compliance certifications, and any other document required by this permit shall be submitted to:

Air Pollution Control District
701 W. Ormsby Avenue, Suite 303
Louisville, Kentucky 40203-3137

Plantwide Requirements

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.17	Federally Enforceable District Origin Operating Permits	All

DISTRICT ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Plantwide Specific Conditions

S1. Standards
[Regulation 2.17, section 5.1]

a. TAC

i. The owner or operator shall not allow emissions of any TAC to exceed environmentally acceptable (EA) levels, whether specifically established by modeling or determined by the District to be *de minimis*.
[Regulations 5.00 and 5.21]

ii. The owner or operator shall perform a new Environmental Acceptability (EA) Demonstration or *de minimis* determination when any of the following events occurs and submit the EA Demonstration on the schedule noted in the reporting section:[1]

(1) An application to construct or modify a process or process equipment is submitted to the District pursuant to Regulation 2.03. 2.04 or 2.05. [Regulation 5.21, section 4.22.1]

(2) A modification of any physical modeling parameters such as fence lines or building heights that are not otherwise subject to the requirements in this permit that affects the demonstration of compliance. [Regulation 5.21, section 4.22.2]

(3) A change occurs in the process or process equipment, including raw material or fuel type substitution. [Regulation 5.21, section 4.22.3]

iii. When a new TAC is introduced or for any existing TAC which does not have an established BAC or *de minimis* value, the owner or operator shall calculate and report these values as part of any aforementioned EA Demonstration. The form, located in Appendix B, may be used for determining BAC and *de minimis* values.
[Regulation 5.20, sections 3 and 4]

[1] Changes to the air dispersion modeling program or meteorological data used in the most recent Environmental Acceptability Demonstration do not trigger the requirement to perform a new Environmental Acceptability Demonstration.

S2. Monitoring and Record Keeping
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. TAC

i. The owner or operator shall maintain records sufficient to demonstrate environmental acceptability, including, but not limited to MSDS/SDS, analysis of emissions, and/or modeling results.

S3. Reporting
[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition G12:

a. TAC

i. The owner or operator shall submit new EA Demonstrations involving applications to construct or modify with the construction permit application. [Regulation 5.21, section 4.22.1]

ii. The owner or operator shall submit new EA Demonstrations involving modification of any physical modeling parameter, such as fence lines or building heights, that are not otherwise subject to the permit requirements for that facility that affects the demonstration of compliance with the operating permit renewal application. [Regulation 5.21, section 4.22.2]

iii. The owner or operator shall submit new EA Demonstrations involving a change in a process or process equipment, including raw material or fuel type substitution before making the change.
[Regulation 5.21, section 4.22.3]

(1) Prior approval by the District is not required if the change does not result in emissions that exceed an EA goal, does not cause emissions of a TAC to no longer be de minimis, and a permit modification is not required. In this case, the new EA Demonstration shall be submitted within 6 months of the change.

Emission Unit U1: Baking Ovens/Cleaning and Sanitizing

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.17	Federally Enforceable District Origin Operating Permits	All
6.10 [2]	Standard of Performance for Existing Process Gas Streams	All
6.24	Standard of Performance for Existing Sources Using Organic Materials	All
7.06	Standards of Performance for New Indirect Heat Exchangers	1 – 5
7.09 [2]	Standard of Performance for New Process Gas Streams	All
7.25	Standard of Performance for New Sources Using Volatile Organic Compounds	All

DISTRICT-ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

[2] The CO emissions from direct-fired baking ovens 2, 3, 4, 5, and 9 are created by the combustion of natural gas to generate heat. The nominal flame temperature of greater than 2000ºF exceeds the 1300ºF temperature required by Regulation 6.10, section 5 and Regulation 7.09, section 5.1. A determination has been made that this is equivalent to a direct flame afterburner. Therefore, there are no standards, monitoring, record keeping, or reporting requirements for these ovens with respect to CO emission limits.

Equipment

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E1	Baking Oven 2: 6.48 MMBtu/hr (direct-fired)	2015	7.09, 7.25, STAR[3]	N/A	S201, S202 S203, S204 S205, S206
E2	Baking Oven 3: 5.28 MMBtu/hr (direct-fired)	1954	6.10, 6.24, STAR[3]	N/A	S301, S302 S303, S304 S305
E3	Baking Oven 4: 3.94 MMBtu/hr (direct-fired)	2004	7.09, 7.25, STAR[3]	N/A	S401
E4	Baking Oven 5: 4.56 MMBtu/hr (direct-fired)	1976	6.24, 7.09, STAR[3]	N/A	S501, S502 S503, S504 S505
E5	Baking Oven 7: 7.90 MMBtu/hr (indirect-fired)	1980	7.06, 7.25, STAR[3]	N/A	S701, S702 S703, S704 S705, S706 S707
E6	Baking Oven 8: 4.50 MMBtu/hr (indirect-fired)	1974	6.24, 7.06, STAR[3]	N/A	S801, S802 S803, S804
E7	Baking Oven 9: 6.23 MMBtu/hr (direct-fired)	2005	7.09, 7.25, STAR[3]	N/A	S901, S902 S903, S904
E8	Equipment Cleaning	N/A	7.25, STAR	N/A	Fugitive
E9	Equipment Sanitizing	N/A	7.25, STAR	N/A	Fugitive

[3] Emission of natural gas combustion products is *de minimis* by definition. [Regulation 5.21, section 7] However, there are TACs not related to natural gas combustion that are released from these ovens.

U1 Specific Conditions

S1. Standards

[Regulation 2.17, section 5.1]

a. Opacity

i. For baking ovens 7 and 8 (E5 and E6), the owner or operator shall not cause to be discharged into the atmosphere particulate matter emissions which exhibit greater than 20% opacity.[4] [Regulation 7.06, section 4.2]

b. PM

i. For baking ovens 7 and 8 (E5 and E6), the owner or operator shall not cause to be discharged into the atmosphere particulate matter in excess of 0.56 pounds per million BTU actual total heat input.[5]
[Regulation 7.06, section 4.1.1]

c. SO_2

i. For baking ovens 2, 4, 5, and 9 (E1, E3, E4, and E7), the owner or operator shall not cause or allow the release of a process gas stream containing sulfur dioxide with a concentration greater than 28.63 grains per 100 dry standard cubic feet (dscf) at 0% excess oxygen per oven unless the resulting emissions of sulfur dioxide are less than 40 tons per year and a modeling demonstration pursuant to Regulation 2.11 is made showing attainment and maintenance of the NAAQS for sulfur dioxide.[6]
[Regulation 7.09, section 4]

ii. For baking oven 3 (E2), the owner or operator shall not cause or allow the release of a process gas stream containing sulfur dioxide with a concentration of 2,000 parts per million by volume at 0% oxygen.[7]
[Regulation 6.10, section 4)]

iii. For baking ovens 7 and 8 (E5 and E6), the owner or operator shall not cause to be discharged into the atmosphere any gases which contain sulfur dioxide

[4] A determination has been made that while burning natural gas, these ovens will inherently meet the 20% opacity standard.

[5] A one-time PM compliance demonstration has been performed for baking ovens 7 and 8, using AP-42 emission factors and combusting natural gas. This demonstration showed that the pounds-per-million-BTU emission standards should be met uncontrolled.

[6] A one-time SO_2 compliance demonstration has been performed for baking ovens 2, 4, 5, and 9 using AP-42 emission factors and combusting natural gas. This demonstration showed that the SO_2 emission standards of Regulation 7.09 should be met uncontrolled.

[7] A one-time SO_2 compliance demonstration has been performed for baking oven 3 using AP-42 emission factors and combusting natural gas. This demonstration showed that the SO_2 emission standards of Regulation 6.10 should be met uncontrolled.

in excess of 1.0 pounds per million BTU actual heat input.[8]
[Regulation 7.06, section 5.1.1]

d. TAC

i. See Plantwide Emission Unit.

ii. The owner or operator shall not allow or cause to allow the emissions of ammonia that are discharged into the atmosphere from each baking oven or the cleaning and sanitizing process to exceed *de minimis*.[9, 10]
[Regulation 5.21, section 4.3]

e. VOC

i. The owner or operator shall not allow or cause to allow the plantwide VOC emissions that are discharged into the atmosphere to exceed 99 tons per twelve-consecutive-month period.[11]
[Regulation 2.17, section 5.1]

ii. The owner or operator shall not allow or cause to allow the VOC emissions that are discharged into the atmosphere from baking ovens 3, 5, or 8 (E2, E4, and E6) to exceed 3,000 pounds per day per oven or 450 pounds per hour per oven.[12] [Regulation 6.24, section 3.3]

iii. The owner or operator shall not allow or cause to allow the VOC emissions that are discharged into the atmosphere from baking ovens 2, 4, 7, and 9 (E1, E3, E5, and E to exceed the following limits:[13]
[Regulation 7.25, section 3.1]

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[8] A one-time SO_2 compliance demonstration has been performed for baking ovens 7 and 8, using AP-42 emission factors and combusting natural gas. This demonstration showed that the pounds-per-million-BTU emission standards should be met uncontrolled.

[9] Other Category 2 TACs, in addition to ammonia, are emitted from these processes in small amounts. Only ammonia was reported in the 2007 Toxics Release Inventory. Therefore, only ammonia is subject to regulation under STAR. [Regulation 5.21, section 4.14] The *de minimis* values for ammonia are 48,000 pounds per calendar year and 54 pounds per hour.

[10] The uncontrolled PTE for this equipment demonstrates that the pounds-per-hour emission rate cannot exceed the *de minimis* rate for any oven. Ovens 2, 3, and 5 can exceed the pound-per-year *de minimis* rate. Keebler Bakery has accepted a maximum annual emission limit of 48,000 pounds per year for ammonia emissions from these ovens.

[11] The company has the potential to emit greater than 100 ton per year of VOC. However, the company requested a plant-wide VOC limit of 99 tons/year.

[12] A one-time VOC compliance demonstration has been performed for baking ovens 3, 5, and 8. The equipment cannot exceed the 3,000 pounds per day per oven or 450 pounds per hour per oven standard. However, the VOC emissions shall be calculated to demonstrate compliance with the plantwide VOC emission limit.

[13] The company submitted a BACT Analysis on April 23, 2015 and requested an individual VOC limit for baking oven 2. The company submitted a BACT Analysis on June 1, 2012 with the FEDOOP Application. Control devices were not economically feasible. The District approved both BACT analyses as submitted.

Table 1. VOC emission standard for affected ovens

Baking Oven	VOC Emission Limit (tons/year)	Construction permit
Oven No. 2 (E1)	10.0	C-1610-1000-15-F (effective date 6/5/2015)
Oven No. 4 (E3)	6.0	N/A
Oven No. 7 (E5)	11.0	N/A
Oven No. 9 (E7)	9.5	N/A

iv. The owner or operator shall not allow or cause to allow the VOC emissions that are discharged into the atmosphere from the operation of the cleaning and sanitizing processes (E8 and E9), and any future additional equipment for which a BACT Analysis has not been performed, to equal or exceed a combined 4.9 tons per twelve-consecutive-month period.[14]
[Regulation 7.25, section 3.1]

S2. Monitoring and Record Keeping
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request. Emission calculations shall be in accordance with the methodology set forth in Attachment A unless another method had been approved in writing by the District.

a. Opacity

i. There are no monitoring or record keeping requirements.

b. PM

i. There are no monitoring or record keeping requirements.

c. SO_2

i. There are no monitoring or record keeping requirements.

d. TAC

i. See Plantwide Emission Unit. The owner or operator shall, monthly, record the usage of ammonium bicarbonate usage for baking ovens 2, 3, and 5 (E1, E2, and E4).

[14] The company requested a limit of 4.9 tons per year to remain below the 5 tons-per-year limit as specified in Regulation 7.25.

ii. For baking ovens 2, 3, and 5 (E1, E2, and E4), the owner or operator shall calculate and record the monthly and twelve-consecutive-month ammonia emissions in pounds for each baking oven within 30 days of the end of each month.

e. VOC

i. The owner or operator shall record the monthly usage of flavoring materials for each baking oven within 30 days of the end of each month.

ii. The owner or operator shall calculate and record the monthly and twelve-consecutive-month VOC emissions from each baking oven within 30 days of the end of each month.

iii. The owner or operator shall record the monthly usage of cleaning and sanitizing materials within 30 days of the end of each month.

iv. The owner or operator shall calculate and record the VOC emissions generated from the cleaning and sanitizing processes, based on the monthly cleaning and sanitizing material throughput records, within 30 days of the end of each month.

S3. Reporting
[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition 12:

a. Opacity

i. There is no compliance reporting required.

b. PM

i. There is no compliance reporting required.

c. SO_2

i. There is no compliance reporting required.

d. TAC

i. See Plantwide Emission Unit. The owner or operator shall report, semi-annually, the monthly totals and the monthly twelve-consecutive-month total pounds of ammonia emitted individually by baking ovens 2, 3, and 5 (E1, E2, and E4).

e. VOC

i. The owner or operator shall report, semi-annually, the monthly totals and the monthly twelve-consecutive-month totals of the tons of VOC emitted for each piece of equipment individually and combined.

Emission Unit U2: Sugar Grinding

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.17	Federally Enforceable District Origin Operating Permits	All
7.08	Standard of Performance for New Process Operations	All

DISTRICT-ONLY ENFORCEABLE REGULATIONS [15]		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Equipment

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E22	Sugar Grinding System, Bauermeister UMT 4.3	2009	7.08	DC1	S1701

Control Devices

Control ID	Description	Control Efficiency	Performance Indicator
DC1	Sugar Grinder Dust Collector: Pfening 45-A-16C, 1080 acfm	95%[16]	Visual inspection

[15] This equipment does not emit any TACs, but the STAR regulations apply to the source.
[16] The company requested a control efficiency of 95% rather than the District-default value of 98%.

U2 Specific Conditions

S1. Standards
[Regulation 2.17, section 5.1]

a. Opacity

i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. [Regulation 7.08, section 3.1.1]

b. PM

i. The owner or operator shall not allow PM emissions to exceed 10.62 lb/hr from the sugar grinding process (E22), based on actual operating hours in a calendar day. [17] [Regulation 7.08, section 3.1.2]

ii. The owner or operator shall operate and maintain the control device DC1 at all times an associated emission point is in operation, including periods of startup, shutdown, and malfunction, in a manner consistent with good air pollution control practice for minimizing emissions.
[Regulation 1.05, section 5]

S2. Monitoring and Record Keeping
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request. Emission calculations shall be in accordance with the methodology set forth in Attachment A unless another method had been approved in writing by the District.

a. Opacity

i. The owner or operator shall, monthly, conduct a one-minute visible emissions survey, during normal operation, of the emission points. No more than four emission points shall be observed simultaneously. The opacity surveys can be performed on the building exhaust points if the process is inside an enclosure.

ii. At emission points where visible emissions are observed, the owner or operator shall initiate corrective action within eight hours of the initial observation. If the visible emissions persist, the owner or operator shall

[17] A one-time PM compliance demonstration was performed for this equipment. This demonstration determined that while the emission rate (lb/hr) standard should be met when operating with controls, the standard can be exceeded when the controls are not operating. Therefore, there are monitoring, record keeping, and reporting requirements.

perform or cause to be performed a Method 9, in accordance with 40 CFR Part 60, Appendix A, within 24 hours of the initial observation.

iii. The owner or operator shall maintain records, monthly, of the results of all visible emissions surveys and tests. Records of the results of any visible emissions survey shall include the date of the survey, the name of the person conducting the survey, whether or not visible emissions were observed, and what if any corrective action was performed. If an emission point is not being operated during a given month, then no visible emission survey needs to be performed and a negative declaration shall be entered in the record.

b. PM

i. The owner or operator shall, monthly, maintain records of the type and amount of products transferred to the sugar grinding equipment.

ii. The owner or operator shall, daily, maintain records of any periods of time where the process was operating and the control device was not operating or a declaration that the control device operated at all times that day when the process was operating.

iii. If there is any time that the control device is bypassed or not in operation when the process is operating, then the owner or operator shall keep a record of the following for each bypass event:

(1) Date;

(2) Start time and stop time;

(3) Identification of the control device and process equipment;

(4) PM emissions during the bypass, in lb/hr;

(5) Summary of the cause or reason for each bypass event;

(6) Corrective action taken to minimize the extent or duration of the bypass event, and;

(7) Measures implemented to prevent reoccurrence of the situation that resulted in the bypass event.

iv. The owner or operator shall, monthly, perform a visual inspection of the structural and mechanical integrity of the dust collector for signs of damage, air leakage, corrosion, or other equipment defects, and repair and/or replace defective components as needed. The owner or operator shall, monthly, maintain records of the results.

S3. Reporting

[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition 12:

a. Opacity

i. The following information shall be included in the semi-annual reports:

(1) Identification of all times visible emissions were observed;

(2) The date, time, and results of each Method 9 that exceeded the opacity standard; and

(3) A description of any corrective action taken for each exceedance.

b. PM

i. The owner or operator shall report the following information regarding bypasses in the semi-annual compliance reports.

(1) Number of times the vent stream bypasses the control device and is vented to the atmosphere;

(2) Duration of each bypass to the atmosphere;

(3) Calculated pound per hour PM emissions for each bypass.

(4) Reason for excess emissions;

(5) Description of corrective action taken to prevent future exceedances;

(6) A negative declaration if no deviations occur during the reporting period;

(7) Identification of all times the monthly control device inspections are missed; and

(8) A negative declaration if all the control device inspections are completed.

Insignificant Activities

Equipment	Qty.	Uncontrolled PTE (ton/yr)	Regulation Basis
York Shipley natural gas-fired boiler [IA-1, E10]	1	NOx 2.16	Regulation 1.02, Appendix A
Evaporative condenser #1; XLP XL-415 [IA-2, E11]	1	PM_{10} 1.08	Regulation 1.02
Evaporative condenser #2; XLP XL-630 [IA-2, E12]	1	PM_{10} 1.63	Regulation 1.02
Evaporative condenser #3; XLP XL-660 [IA-2, E13]	1	PM_{10} 1.63	Regulation 1.02
Railcar and truck unloading [IA-2, E14]	1	PM_{10} 0.30	Regulation 1.02
Flour silos [IA-2, E15]	4	PM_{10} 0.23 each	Regulation 1.02
Sugar silos [IA-2, E16]	2	PM_{10} 0.23 each	Regulation 1.02
Process hoppers [IA-2, E17.01 – E17.10]	10	PM_{10} 0.00 each [a]	Regulation 1.02
Process mixers [IA-2, E18]	10	PM_{10} 0.0005 each (when processing flour)	Regulation 1.02
		PM_{10} 0.16 each (when processing sugar)	Regulation 1.02
Raw material hand mixing [IA2, E19a-E19d]	4	PM_{10} 0.04	Regulation 1.02
Sugar use bin [IA-2, E20]	1	PM_{10} 0.02	Regulation 1.02
Invert sugar process [IA-3]	1	HAP Cl_2 0.45	Regulation 1.02, Appendix A

[a] material is conveyed to and from the process hoppers in a closed pneumatic system. There are no emissions from these hoppers.

NOTES

1. Insignificant activities identified in District Regulation 1.02, Appendix A, may be subject to size or production rate disclosure requirements.
2. Insignificant activities identified in District Regulation 1.02, Appendix A shall comply with generally applicable requirements.
3. The owner or operator shall annually submit an updated list of insignificant activities that occurred during the preceding year, with the compliance certification due April 15th.

4. Emissions from Insignificant Activities shall be reported in conjunction with the reporting of annual emissions of the facility as required by the District.

5. The owner or operator may elect to monitor actual throughputs for each of the insignificant activities and calculate actual annual emissions or use Potential to Emit (PTE) as the annual emissions for each piece of equipment.

6. The District has determined that no monitoring, recordkeeping, or reporting requirements apply to the insignificant activities listed, except for the equipment that has an applicable regulation and permitted under an insignificant activity (IA) unit.

Emission Unit IA-1: Boiler

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.17	Federally Enforceable District Origin Operating Permits	All
7.06	Standards of Performance for New Indirect Heat Exchangers	1 – 5

DISTRICT-ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Equipment

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E10	York Shipley natural gas-fired boiler: 5.02 MMBtu/hr (indirect)	1989	7.06, STAR[18]	N/A	N/A

[18] Emissions from the combustion of natural gas are *de minimis*. [Regulation 5.21, section 2.7]

IA-1 Specific Conditions

S1. Standards
[Regulation 2.17, section 5.1]

a. Opacity

i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity. [19] [Regulation 7.06, section 4.2]

b. PM

i. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility particulate matter in excess of 0.56 pounds per million BTU actual total heat input. [20] [Regulation 7.06, section 4.1.4]

c. SO_2

i. The owner or operator shall not cause to be discharged into the atmosphere from that affected facility any gases which contain sulfur dioxide in excess of 1.0 pounds per million BTU actual total heat input for combustion of gaseous fuels. [21] [Regulation 7.06, section 5.1.1]

S2. Monitoring and Record Keeping
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. Opacity

i. There are no monitoring or record keeping requirements.

b. PM

i. There are no monitoring or record keeping requirements.

[19] A determination has been made that this opacity standard should be met when combustion natural gas.
[20] A one-time PM compliance demonstration for the boiler, using AP-42 emission factors for combusting natural gas, has shown that the pounds-per-million-BTU emission standards should be met uncontrolled.
[21] A one-time SO_2 compliance demonstration for the boiler, using AP-42 emission factors and combusting natural gas, has shown that the pounds-per-million-BTU emission standards should be met uncontrolled.

c. SO_2

i. There are no monitoring or record keeping requirements.

S3. Reporting

[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition 12:

a. PM

i. There are no routine compliance reporting requirements.

b. Opacity

i. There are no routine compliance reporting requirements.

c. SO_2

i. There are no routine compliance reporting requirements.

Insignificant Activity Unit IA-2: Miscellaneous Equipment

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.17	Federally Enforceable District Origin Operating Permits	All
6.09	Standards of Performance for Existing Process Operations	1 – 3
7.08	Standards of Performance for New Process Operations	1 – 3

DISTRICT-ONLY ENFORCEABLE REGULATIONS [22]		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Equipment

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E11	Evaporative Condenser #1 XLP XL-415	2012	7.08	N/A	N/A
E12	Evaporative Condenser #2 XLP XL-630	2012	7.08	N/A	N/A
E13	Evaporative Condenser #3 XLP XL-660	2012	7.08	N/A	N/A
E14	Railcar and Truck Unloading	after 2003	7.08	C5a	S1100
E15.01	Flour Silo	1973	6.09	C5b	S1101
E15.02	Flour Silo	1973	6.09	C5c	S1102

[22] This equipment does not emit any TACs, however, the STAR regulations apply to the source.

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E15.03	Flour Silo	1973	6.09	C5d	S1103
E15.04	Flour Silo	1973	6.09	C5e	S1104
E16.01	Sugar Silo	1973	6.09	C5f	S1105
E16.02	Sugar Silo	1973	6.09	C5g	S1106
E17.01	Old platform mixer #1 Hopper	Prior to 9/1/1976	6.09 [23]	N/A	N/A
E17.02	Old platform mixer #2 Hopper	2018	7.08 [24]	N/A	N/A
E17.03	Hopper for Coating mixers #1&2	Prior to 9/1/1976	6.09 [23]	N/A	N/A
E17.04	Crème mixer Hopper		6.09 [23]	N/A	N/A
E17.05	Old platform mixer #5 Hopper		6.09 [23]	N/A	N/A
E17.06	Old platform mixer #6 Hopper		6.09 [23]	N/A	N/A
E17.07	New platform mixer #7 Hopper		6.09 [23]	N/A	N/A
E17.08	Sugar grinder supply Hopper		6.09 [23]	N/A	N/A
E17.09	New platform mixer #9 Hopper		6.09 [23]	N/A	N/A
E17.10	New platform mixer #10 Hopper	2018	7.08 [24]	N/A	N/A
E18.01	Coating Mixer 1	Prior to 9/1/1976	6.09 [23]	DCS-1A	N/A
E18.02	Coating Mixer 2		6.09 [23]	DCS-1A	N/A
E18.03	Creme Mixer		6.09 [23]	DCS-1A	N/A
E18.04	Cookie Tumbler		6.09 [23]	DCS-1A	N/A
E18.05	Line 2 Bagging		6.09 [23]	DCS-1A	N/A
E18.06	Old Platform Mixer #1	2016	7.08 [24]	DCS-4A	N/A
E18.07	Old Platform Mixer #2	2018	7.08 [24]	DCS-4A	N/A
E18.08	Old Platform Mixer #5	Prior to 9/1/1976	6.09 [23]	DCS-3	N/A
E18.09	Old Platform Mixer #6		6.09 [23]	DCS-3	N/A
E18.10	New Platform Mixer #7		6.09 [23]	DCS-2	N/A
E18.11	New Platform Mixer #9		6.09 [23]	DCS-2	N/A
E18.12	New Platform Mixer #10		6.09 [23]	DCS-2	N/A

[23] Initial application for this equipment was made on December 28, 2006. However, installation of the equipment occurred before September 1, 1976, the date of applicability of Regulation 7.08. Therefore, emissions from this equipment are regulated by Regulation 6.09.

[24] When this equipment was replaced it became subject to regulation 7.08 rather than 6.09. The emission standard became more stringent at that time. The equipment was determined to meet the new standard uncontrolled.

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E19a	Raw material hand weighing and dumping - Coating and Crème Platform	2019	7.08	DCS-1A	N/A
E19b	Raw material hand weighing and dumping - New Mix Platform to Lines 7, 9, and 10	2019	7.08	DCS-2	N/A
E19c	Raw material hand weighing and dumping - Old Mix Platform to Lines 3 and 5	2019	7.08	DCS-3	N/A
E19d	Raw material hand weighing and dumping (Old Platform Mixers 1 and 2) Old Mix Platform (Bulk Room) to Lines 2 and 6	2019	7.08	DCS-4A	N/A
E20	Sugar use bin	2018	7.08 [24]	N/A	N/A

Control Devices

Control ID	Description	Control Efficiency	Performance Indicator
DCS-1A	CP Environmental/Clean Air Technologies 18-HF-31[25] cartridge dust collector	98%[26]	N/A
DCS-2	Donaldson Torit TD-486, 1500 acfm cartridge dust collector	98%[26]	
DCS-3	Donaldson Torit TD-486, 1500 acfm cartridge dust collector	98%[27]	
DCS-4A	CECO Environmental Flex-Kleen Cartridge dust collector[28]	98%[26]	
C5a-g	Pfening 40-PT-16, 700 acfm bin vent filters (seven identical units)	95%[29]	

[25] The original application was for a Donaldson Torit TD-486 unit at this location, designated as DCS-1. The listed equipment was installed instead.
[26] The District default efficiency for baghouses and cartridge units is 98% unless the permitted source can provide valid on-site testing data for the equipment.
[27] The District default efficiency for baghouses and cartridge units is 98% unless the permitted source can provide valid on-site testing data for the equipment.
[28] The original application was for a Donaldson Torit TD-486 unit at this location, designated as DCS-4. The listed equipment was installed instead.
[29] The District default efficiency for bin vent filters is 95% unless the permitted source can provide valid on-site testing data for the equipment.

IA-2 Specific Conditions

S1. Standards

[Regulation 2.17, section 5.1]

a. Opacity

i. The owner or operator shall not allow visible emissions to equal or exceed 20% opacity.
[Regulation 6.09, section 3.1 and Regulation 7.08, section 3.1.1]

b. PM [30]

i. The owner or operator shall not allow PM emissions to exceed 38.58 lb/hr for Evaporative Condenser 1 (E11), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2]

ii. The owner or operator shall not allow PM emissions to exceed 41.17 lb/hr for either Evaporative Condensers 2 (E12) or 3 (E13), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2]

iii. The owner or operator shall not allow PM emissions to exceed 12.5 lb/hr for Railcar Unloading (E14), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2]

iv. The owner or operator shall not allow PM emissions to exceed 17.2 lb/hr for each Flour Silo (E15.01 – E15.04), based on actual operating hours in a calendar day. [Regulation 6.09, section 3.2

v. The owner or operator shall not allow PM emissions to exceed 12.8 lb/hr for each Sugar Silo (E16.01, E16.02), based on actual operating hours in a calendar day. [Regulation 6.09, section 3.2]

vi. The owner or operator shall not allow PM emissions to exceed 2.58 lb/hr for each Process Hopper (E17.01 and E17.03 – E17.09), based on actual operating hours in a calendar day. [Regulation 6.09, section 3.2]

vii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for each Process Hopper (E17.02 and E17.10), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2

viii. The owner or operator shall not allow PM emissions to exceed 2.58 lb/hr for each Process Mixer E18.01 - E18.03, and E18.08 – E18.12, based on actual operating hours in a calendar day. [Regulation 6.09, section 3.2]

[30] A one-time PM compliance demonstration was performed for each piece of equipment listed in this IA emission unit, and the lb/hr standard should be met uncontrolled.

ix. The owner or operator shall not allow PM emissions to exceed 2.58 lb/hr for the Cookie Tumbler (E18.04), based on actual operating hours in a calendar day. [Regulation 6.09, section 3.2]

x. The owner or operator shall not allow PM emissions to exceed 2.58 lb/hr for the Line 2 Bagging (E18.05), based on actual operating hours in a calendar day. [Regulation 6.09, section 3.2]

xi. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for either the Old Platform Process Mixers #1 or #2 (E18.06 and E18.07), based on actual operating hours in a calendar day.
[Regulation 7.08, section 3.1.2]

xii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for each Raw Material Weighing and Dumping operation (E19a – E19d), based on actual operating hours in a calendar day.
[Regulation 7.08, section 3.1.2]

xiii. The owner or operator shall not allow PM emissions to exceed 2.34 lb/hr for the Sugar Use Bin (E20), based on actual operating hours in a calendar day. [Regulation 7.08, section 3.1.2]

S2. Monitoring and Record Keeping
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request.

a. Opacity

i. There are no monitoring or record keeping requirements.

b. PM

i. There are no monitoring or record keeping requirements.

S3. Reporting
[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition 12:

a. Opacity

i. There are no monitoring or record keeping requirements.

b. PM

i. There are no monitoring or record keeping requirements.

Insignificant Activity Unit IA-3: Invert Sugar Process

Applicable Regulations

FEDERALLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
2.17	Federally Enforceable District Origin Operating Permits	All

DISTRICT-ONLY ENFORCEABLE REGULATIONS		
Regulation	**Title**	**Applicable Sections**
5.00	Definitions	1, 2
5.01	General Provisions	1 through 2
5.20	Methodology for Determining Benchmark Ambient Concentration of a Toxic Air Contaminant	1 through 6
5.21	Environmental Acceptability for Toxic Air Contaminants	1 through 5
5.22	Procedures for Determining the Maximum Ambient Concentration of a Toxic Air Contaminant	1 through 5
5.23	Categories of Toxic Air Contaminants	1 through 6
STAR regulations are 5.00, 5.01, 5.20, 5.21, 5.22, and 5.23		

Equipment

Emission Point	Description	Install Date	Applicable Regulations	Control ID	Release ID
E23	Invert Sugar Process	Prior to 2012	STAR	N/A	S907

IA-3 Specific Conditions

S1. Standards
[Regulation 2.17, section 5.1]

a. TAC

i. See Plantwide Emission Unit.[31]

S2. Monitoring and Record Keeping
[Regulation 2.17, section 5.2]

The owner or operator shall maintain the following records for a minimum of five years and make the records readily available to the District upon request. TAC

i. See Plantwide Emission Unit.

S3. Reporting
[Regulation 2.17, section 5.2]

The owner or operator shall report the following information, as required by General Condition 12:

a. TAC

i. See Plantwide Emission Unit.

[31] Chlorine emissions from this process were not included in the company's 2007 Toxic Release Inventory submission to the EPA. Chlorine is a Category 2 TAC in the STAR program. Under Regulation 5.21, section 4.14 these emissions may be excluded from STAR analysis. If there are any modifications made to this equipment, the equipment will no longer be considered "existing equipment", and the chlorine emissions will no longer be excluded from the TAC environmental acceptability analysis, recordkeeping, and reporting requirements.

Attachment A - Emission Factors and Calculation Methodologies

The emissions shall be calculated according to the following methodology or another method approved in writing by the District. Emissions are calculated by multiplying the throughput (ton, MMCF, gallons, etc.) or hours of operation of the equipment by the appropriate emission factor and take into account control devices, if applicable. In lieu of recording annual throughputs and calculating actual annual emissions, the owner or operator may elect to report the pollutant Potential To Emit (PTE) quantity listed in the Insignificant Activities table, as the annual emission for each piece of equipment that is designated as an IA.

<table>
<tr><th>Equipment</th><th>Emission Point</th><th>Emission Calculation</th></tr>
<tr><td>U1
Baking Ovens</td><td>E1 – E7</td><td>
<u>Natural Gas Emissions:</u>
$$emission\left(\frac{ton}{yr}\right) = ((natural\ gas\ thruput[MMcf]) \times EF)/2000$$
Emission Factors
<table>
<tr><th>Pollutant</th><th>EF (lb/MMcf)</th><th></th><th>Pollutant</th><th>EF (lb/MMcf)</th></tr>
<tr><td>NOx</td><td>100</td><td></td><td>SO_2</td><td>0.6</td></tr>
<tr><td>CO</td><td>84</td><td></td><td>VOC</td><td>5.5</td></tr>
<tr><td>PM/PM_{10}</td><td>0.52</td><td></td><td>NH_3</td><td>3.2</td></tr>
<tr><td>Pb</td><td>0.0005</td><td></td><td>Total HAP</td><td>1.888</td></tr>
</table>
For routine compliance reporting, use only the emission factors required for those reports. All the pollutants shown should be included if an Emission Inventory report is required by the District.

<u>VOC Emissions from flavoring additions:</u>
$$VOC\left(\frac{ton}{yr}\right) = \frac{1}{2000}\sum_{i=1}^{n}\left(flavoring_i\left(\frac{lb}{yr}\right) \times [(LVC_i\% \times 0.2) + EtOH_i\%]\right)$$
Where
LVC = low-volatile compounds in flavoring i
EtOH = ethanol in flavoring i
0.2 = fraction of LVC that is emitted from product

<u>Ammonia emissions from leavening (TAC emissions):</u>
$$NH_3\left(\frac{ton}{yr}\right) = \frac{1}{2000}\sum_{i=1}^{n}\left[recipe_i\left(\frac{lb}{yr}\right) \times (NH_4HCO_3)_i\% \times 0.2154\right]$$
Where
0.2154 = ammonia emission factor for ammonium bicarbonate
</td></tr>
</table>

Equipment	Emission Point	Emission Calculation
U1 Cleaning and Sanitizing	E8, E9	$VOC\left(\frac{lb}{yr}\right) = \left[usage\left(\frac{gal}{yr}\right)\right] \times \left[density\left(\frac{lb}{gal}\right)\right] \times \%VOC$ or $VOC\left(\frac{lb}{yr}\right) = \left(usage\left(\frac{lb}{yr}\right)\right) \times \%VOC$ **AND** $HAP\left(\frac{lb}{yr}\right) = \left[usage\left(\frac{gal}{yr}\right)\right] \times \left[density\left(\frac{lb}{gal}\right)\right] \times \%HAP$ or $HAP\left(\frac{lb}{yr}\right) = \left(usage\left(\frac{lb}{yr}\right)\right) \times \%HAP$ • The %VOC and %HAP should be obtained from the MSDS. • Emission determination must be made individually for each cleaning and sanitizing product used and the individual emissions totaled. The total should be divided by 2000 to obtain total emissions in tons per year.
U2 Sugar Grinding system	E22	$PM\ and\ PM_{10}\left(\frac{ton}{yr}\right) = \left[\left(thruput\left(\frac{ton}{yr}\right) \times EF \times (1 - CE)\right)/2000\right] \times 10\%$ Where *PM* emission factor = 70 lb_{PM}/ton_{sugar} [AP42-9.9.1-2] PM_{10} emission factor = 35 lb_{PM}/ton_{sugar} *CE* = 95% 10% = amount of sugar dust leaving the enclosed grinding system $PM_{10} = {}^{PM}/_{2}$

<table>
<tr><th>Equipment</th><th>Emission Point</th><th>Emission Calculation</th></tr>
<tr><td>IA-1
York Shipley boiler</td><td>E10</td><td>
<u>Natural Gas Emissions:</u>
$$emission\left(\frac{ton}{yr}\right) = ((natural\ gas\ thruput[MMcf]) \times EF)/2000$$

Emission Factors
<table>
<tr><th>Pollutant</th><th>EF (lb/MMcf)</th><th></th><th>Pollutant</th><th>EF (lb/MMcf)</th></tr>
<tr><td>NOx</td><td>100</td><td></td><td>SO_2</td><td>0.6</td></tr>
<tr><td>CO</td><td>84</td><td></td><td>VOC</td><td>5.5</td></tr>
<tr><td>PM/PM_{10}</td><td>0.52</td><td></td><td>NH_3</td><td>3.2</td></tr>
<tr><td>Pb</td><td>0.0005</td><td></td><td>Total HAP</td><td>1.888</td></tr>
</table>
For routine compliance reporting, use only the emission factors required for those reports. All the pollutants shown should be included if an Emission Inventory report is required by the District

Instead of performing calculations, you may use the PTE presented in the IA table
</td></tr>
<tr><td>IA-2
Evaporative coolers</td><td>E11 – E13</td><td>
$$PM = PM_{10} = coolant\ flow\ \left(\frac{gal}{min}\right) \times TDS \times DFR \times \left(\frac{hr}{yr}\right) \times K$$

Where
TDS = average total dissolved solids in coolant (assume 20600 ppm)
DFR = drift flow rate, defined by manufacturer as 0.004%
$\frac{hr}{yr}$ = operating hours per year, assume 8760
K = 2.5×10^{-7}, constant including factors to convert gal/hr and ppm dissolved solids to tons/yr

Instead of performing calculations, you may use the PTE presented in the IA table
</td></tr>
<tr><td>IA-2
Railcar and truck unloading</td><td>E14</td><td>
$$PM\ and\ PM_{10}\left(\frac{ton}{yr}\right) = thruput\left(\frac{ton}{yr}\right) \times EF \times (1 - CE)$$

Where
PM emission factor = 0.025 lb/ton (AP42-9.9.1-1)
PM₁₀ emission factor = 0.0063 lb/ton
CE = 95%

Instead of performing calculations, you may use the uncontrolled PTE presented in the IA table.
</td></tr>
</table>

Equipment	Emission Point	Emission Calculation
IA-2 Flour Silos	E15.01 – E15.04	$PM/PM_{10}\left(\frac{ton}{yr}\right) = \left(\frac{0.02\ grain}{acfm}\right)\left(\frac{actual\ ft^3}{min}\right)\left(\frac{60\ min}{hr}\right)\left(\frac{8760\ hr}{yr}\right)\left(\frac{1\ lb}{7000\ grain}\right)\left(\frac{1\ ton}{2000\ lb}\right)$ Where Fan rating = 696 acfm Instead of performing calculations, you may use the uncomtrolled PTE presented in the IA table Uncontrolled PM = 0.93 ton/yr each PM_{10} = 0.23 ton/yr each Controlled PM=0.05 tons/yr each PM_{10}=0.01 tons/year each
IA-2 Sugar Silos	E16.01 – E16.02	$PM/PM_{10}\left(\frac{ton}{yr}\right) = \left(\frac{0.02\ grain}{acfm}\right)\left(\frac{actual\ ft^3}{min}\right)\left(\frac{60\ min}{hr}\right)\left(\frac{8760\ hr}{yr}\right)\left(\frac{1\ lb}{7000\ grain}\right)\left(\frac{1\ ton}{2000\ lb}\right)$ Where Fan rating = 696 acfm Instead of performing calculations, you may use the uncontrolled PTE presented in the IA table
IA-2 Process Mixers, Cookie tumbler, Line 2 bagging, and raw material hand mixing	E18.01 – E18.12 and E19	$PM\ and\ PM_{10}\left(\frac{ton}{yr}\right) = thruput\left(\frac{ton}{yr}\right) \times EF \times (1 - CE)$ Where PM_{flour} emission factor = 3.35×10^{-5} *lb/ton* $PM_{10,flour}$ emission factor = 1.58×10^{-5} *lb/ton* PM_{sugar} *emission factor = 0.072 lb/ton* $PM_{10,sugar}$ *emission factor = 0.034 lb/ton* *CE* = 95% Instead of performing calculations, you may use the uncontrolled PTE presented in the IA table.

Equipment	Emission Point	Emission Calculation
IA-2 Sugar Use Bin	E20	$PPM/PM_{10}\left(\frac{ton}{yr}\right)$ $= \left(\frac{0.0025\ grain}{acfm}\right)\left(\frac{actual\ ft^3}{min}\right)\left(\frac{60\ min}{hr}\right)\left(\frac{8760\ hr}{yr}\right)\left(\frac{1\ lb}{7000\ grain}\right)\left(\frac{1\ ton}{2000\ lb}\right)$ Where Fan rating = 900 acfm Instead of performing calculations, you may use the uncontrolled PTE presented in the IA table –
IA-3 Invert Sugar Process	E23	TAC emissions: $Cl\left(\frac{ton}{yr}\right) = \frac{fl\ oz_{\ HCl}}{batch} \times \frac{\#\ batches}{year} \times K$ Where ***K* = 0.03** is a constant factor to convert the volume of HCl added to the mass of chlorine emitted, as documented in the District PTE calculations. Instead of performing calculations, you may use the PTE presented in the IA table.

Attachment B – Determination of Benchmark Ambient Concentration (BAC)

Category _____ Number _____

Compound name _____ CAS No. _____

Molecular weight _____

BAC_C = _____ µg/m³, annual BAC_{NC} = _____ µg/m³, _____ (avg period)

de minimis _____ lb/hr; _____ lb/_____; _____ lb/year

I. Carcinogen Risk - BAC_C (annual averaging period) Carcinogen ☐ YES ☐ NO

1. ☐ IRIS 10^{-6} risk = _____ µg/m³ URE = _____ $(µg/m^3)^{-1}$ Date _____
2. ☐ Cal 10^{-6} risk = _____ µg/m³ IUR = _____ $(µg/m^3)^{-1}$ Date _____
3. ☐ Mich 10^{-6} risk = _____ µg/m³ Date _____
4. ☐ NTP Part A ☐ YES ☐ NO Part B ☐ YES ☐ NO
5. ☐ IARC Group 1 ☐ YES ☐ NO Group 2A ☐ YES ☐ NO Group 2B ☐ YES ☐ NO
6. ☐ ATSDR
7. ☐ Sec. 3.3.4 Method # _____ 10^{-6} risk = _____ µg/m³ Date _____
8. ☐ Default 0.0004 µg/m³

II. Chronic Noncancer Risk - BAC_{NC} (averaging period as specified)

1. ☐ IRIS RfC = _____ µg/m³, annual Date _____
2. ☐ Cal REL = _____ µg/m³, annual Date _____
3. ☐ IRIS [1] RfD = _____ µg/kg/day × (70/20) = _____ µg/m³, annual Date _____
4. ☐ Mich ITSL = _____ µg/m³, _____ averaging period Date _____
5. ☐ TLV NIOSH = _____ µg/m³ × 0.01 = _____ µg/m³, 8-hour Date _____
6. ☐ RTECS [1] _____ = _____ µg/m³, annual Date _____
   (describe calculation from Reg 5.20, sections 4.6 - 4.10)
7. ☐ Default 0.004 µg/m³

[1] To use data based upon an oral route of exposure, the District must make an affirmative determination that data are not available to indicate that oral-route to inhalation-route extrapolation is inappropriate.

III. *De minimis calculations*

1. ☐ Carcinogen BAC_C _____ µg/m³ × 0.54 = _____ lb/hour
   BAC_C _____ µg/m³ × 480 = _____ lb/year

2. ☐ Chronic Noncancer Risk _____ (averaging period)
   BAC_{NC} _____ µg/m³ × F factor = _____ lb/(avg period)

BAC averaging period	F factor for avg period			
	Annual	24 hour	8 hour	1 hour
Annual	480			0.54
24 hours		0.12		0.05
8 hours			0.02	0.02
1 hour				0.001

[Regulation 5.22, table 1]

Prepared by _____ Date _____

Fee Comment

An Administrative Revision fee of $546.29 is due prior to permit issuance for permit number O-1610-19-F (R2).